

LISTING OF CLAIMS:

Claims 1 – 2. (Canceled)

3. (Currently amended) ~~The~~ A respiratory monitoring system according to claim 1,
comprising:

a plurality of sensors that produces weight signals corresponding to forces applied by a
person under respiratory monitoring during sleep;

a respiratory signal producing means that produces a respiratory signal representing
respiratory conditions of the person based on the weight signals;

a sensor selection control means that outputs switching signals;

a sensor selecting means that selects sensors based on the switching signals;

a signal converting means that converts weight signals outputted from the sensors that are
selected by the sensor selecting means to digital signals;

a signal strength determining means that determines a signal strength in a respiration
frequency band corresponding to the respiratory body movement and a signal strength in another
frequency band;

a signal strength comparing means that compares the signal strength in the respiration
frequency band with the signal strength in the other frequency band;

a signal selecting means that selects weight signals having a signal strength in the
respiratory frequency band with a predetermined ratio to the signal strength in the other
frequency band; and

a target sensor selecting means that selects the sensors outputting the signal selected by the signal selecting means, wherein

the respiratory signal producing means produces the respiratory signal based on the weight signals outputted from the sensors that are selected by the target sensor selecting means,

~~wherein the sensor selecting means selects the sensors based on a comparison of the respiratory signal levels between the respiration frequency band and a frequency band higher than the respiration frequency band.~~

4. (Currently amended) The respiratory monitoring system according to claim 329, wherein the ~~sensor~~ signal selecting means selects the ~~sensors~~ weight signals having an averages of the signal strengths levels in the respiration frequency band ~~is a~~ are predetermined times higher than ~~that~~ averages of the signal strength in the frequency band higher than the respiration frequency band.

5. (Currently amended) The respiratory monitoring system according to claim 13, wherein: ~~the sensor selecting means selects the sensors based on a comparison of the respiratory signal levels between the respiration frequency band and a frequency band lower than the respiration frequency band~~ the signal strength determining means determines a signal strength in the respiration frequency band and a signal strength in a frequency band lower than the respiration frequency band;

the signal selecting means selects weight signals, the signal strengths of which have a predetermined ratio to the signal strengths in the frequency band lower than the respiration frequency band; and

the target sensor selecting means selects the sensors that output the signal selected by the signal selecting means.

6. (Currently amended) The respiratory monitoring system according to claim 5, wherein the ~~sensor~~ signal selecting means selects ~~the sensors~~ weight signals having an averages of the signal ~~levels~~ strengths in the respiration frequency band is are a predetermined times higher than ~~that~~ averages of the signal strength in the frequency band lower than the respiration frequency band.

7. (Currently amended) The respiratory monitoring system according to claim 13, further ~~includes~~ including a bias component removing means, ~~wherein the bias component removing means~~ that removes a bias component from the weight signals prior to selecting the sensors by the target sensor selecting means, the bias component indicating a load applied to the sensor due to a weight of the person.

8. (Currently amended) The respiratory monitoring system according to claim 13, further comprising a ~~sensor detecting means that detects a sensor under the person~~ person presence determining means that determines presence of the person on top of the sensors.

9. (Currently amended) The respiratory monitoring system according to claim 13, wherein:

the respiratory signal producing means determines whether an amplitude of the respiratory signal is smaller than a predetermined level for a predetermined period;

the target sensor selecting means reselects the sensors when the amplitude is smaller than the predetermined level for the predetermined period; and

the respiratory signal producing means reproduces a respiratory signal based on weight signals newly outputted from the reselected sensors ~~when an amplitude of the respiratory signal is lower than a predetermined level for a predetermined period.~~

10. (Canceled)

11. (Canceled)

12. (Original) The A respiratory monitoring system for a sleep apnea syndrome examination comprising:

a respiratory signal producing means that produces a respiratory signal representing a variation in weight applied due to a respiratory body movement of a person under the sleep apnea syndrome examination; and

a determination means that detects apnea or hypopnea of the person based on a variation in frequency of the respiratory signal according to claim 11, wherein:

the determination means monitors a variation in amplitude of the respiratory signal;

the determination means detects apnea or hypopnea when the amplitude of the respiratory signal decrease, increase, and then decrease with time and a frequency of the respiratory signal increases as the amplitude of the same increases.

13. (Original) The respiratory monitoring system according to claim 12, wherein:

the determination means calculates an amplitude average from a plurality of respiratory signals;

the determination means detects the variation in amplitude based on the calculation.

14. (Original) The respiratory monitoring system according to claim 12, wherein the determination means determines that the amplitude of the respiratory signal varies from a decreasing state to an increasing state when a variation rate of the respiratory signal is equal to or more than 1.4.

15. (Currently amended) ~~The~~A respiratory monitoring system ~~according to claim 11 for~~
a sleep apnea syndrome examination comprising:

a respiratory signal producing means that produces a respiratory signal representing a
variation in weight applied due to a respiratory body movement of a person under the sleep
apnea syndrome examination; and

a determination means that detects apnea or hypopnea of the person based on a variation
in frequency of the respiratory signal, wherein

the determination means that the frequency of the respiratory signal varies from low to
high when a period of the respiratory signal becomes 0.5 second shorter than the previous signal.

16. (Original) The respiratory monitoring system according to claim 12, wherein the
determination means determines that a respiratory condition of the person is normal when a
condition that the amplitude increases and the frequency is high continues less than a
predetermined period.

17. (Canceled)

18. (Currently amended) The respiratory monitoring system according to claim ~~11~~12,
further comprising a distinguishing means that distinguishes between the apnea and the
hypopnea based on a phase difference in weight signals according to a respiratory body
movement in a chest area and an abdominal area.

19. (Original) The respiratory monitoring system according to claim 18, wherein the
distinguishing means determines the hypopnea when the weight signals are substantially in phase
and the apnea when the weight signals are substantially in opposite phase.

20. (Currently amended) The respiratory monitoring system according to claim ~~11~~12, further comprising a sleeping posture determination means that determines a sleeping posture of the person during sleep based on a variation in a number ~~weight distribution~~ of the sensors detecting a weight.

21. (Original) The respiratory monitoring system according to claim 20, wherein the calculation means calculates the number of times that the apnea or the hypopnea is detected for each sleeping posture determined by the sleeping posture determination means.

22. (Currently amended) The respiratory monitoring system according to claim ~~11~~12, wherein the respiratory signal producing means stops producing the respiratory signals while the weight distribution is changing.

23. (Currently amended) The respiratory monitoring system according to claim ~~11~~25, further comprising a person presence detecting means that detects a presence or an absence of the person based on a weight applied by an object on the sensors, wherein

the respiratory signal producing means stops producing the respiratory signals when the person presence detecting means detects the absence of the person.

24. (Canceled)

25. (Currently amended) The respiratory monitoring system according to claim ~~23~~12, wherein the person presence detecting means detects the absence of the person when the variation in weight due to the respiratory body movement is absent.

Claims 26 – 28. (Canceled)

29. (New) The respiratory monitoring system according to claim 3, wherein:

the signal strength determining means determines a signal strength in the respiration frequency band and a signal strength in a frequency band higher than the respiration frequency band;

the signal selecting means selects weight signals, the signal strengths of which have a predetermined ratio to the signal strengths in the frequency band higher than the respiration frequency band; and

the target sensor selecting means selects the sensors that output the signal selected by the signal selecting means.

30. (New) The respiratory monitoring system according to claim 15, wherein the respiratory signal producing means stops producing the respiratory signals while the weight distribution is changing.